

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

REARDEN LLC, et al.,
Plaintiffs,

v.

THE WALT DISNEY COMPANY, et al.,
Defendants.

Case No. 17-cv-04006-JST

**FINDINGS OF FACT AND
CONCLUSIONS OF LAW**

This copyright infringement case was tried to a jury beginning on December 6, 2023 and concluding with a verdict on December 21, 2023. Plaintiffs Rearden LLC and Rearden Mova LLC (collectively “Rearden”) sought an award of actual damages and disgorgement of Defendant Walt Disney Pictures’ (“Disney”) profits from the 2017 film *Beauty and the Beast* (“BATB”). On December 14, 2023, the Court ruled that Plaintiffs did not have the right to a jury trial on the issue of disgorgement of profits, and that the jury’s verdict on that issue would be advisory. ECF No. 672.

At the conclusion of trial, the jury returned a verdict finding that (1) Disney vicariously infringed Rearden’s copyright when its vendor Digital Domain 3.0, Inc. (“DD3”) used the MOVA software to animate the face of the film’s computer graphics Beast character; and (2) Disney was liable for actual damages and disgorged profits. ECF No. 691.

The matter is now before the Court on the question of disgorgement of profits. Pursuant to the Court’s order, the parties submitted proposed findings of fact and conclusions of law on that issue, as well as briefs responding to each other’s proposals. Having considered the evidence presented at trial, the parties’ arguments, and the jury’s advisory verdict, and good cause appearing, the Court now finds and concludes on disgorgement of profits as follows:

I. FINDINGS OF FACT**A. The Production of *Beauty and the Beast***

1. *BATB* is a live-action movie based on Disney's 1991 animated film of the same name. TX1001, 1003; Tr. 1180-81.

2. Research and development for *BATB* began in December 2014; principal photography occurred May 18 to August 20, 2015; post-production work occurred August 31, 2015 to January 31, 2017; and *BATB* was released on March 17, 2017. Tr. 1177, 1182-85.

3. Over 1,000 people and more than 200 vendors were involved in the production, including four main visual effects vendors: Framestore, Method Studios, Lola, and DD3. TX1052; Tr. 1183, 1186, 1203-05, 1285-86. DD3 created the computer-generated ("CG") Beast and other visual effects. DD3 was not initially hired to create the Beast but was later chosen to do so because of its proprietary Direct Drive technology. Tr. 1285-87.

4. *BATB*'s visual effects budget was around \$69 million. TX1022; Tr. 1298. DD3 was paid \$31 million for all its visual effects work. DD3 did not charge separately for use of MOVA,¹ but charged around \$23,000 for facial motion capture. *Id.*

5. DD3 copied MOVA into the random access memory ("RAM") of computers it operated when working on *BATB*. Tr. 1176. DD3 used MOVA software to help capture facial performances of Dan Stevens and to process that data into a tracked mesh. Tr. 987-88, 1232-33, 1482-85. Components other than MOVA software (e.g., hardware, know-how, actor, director) were needed to capture Stevens's facial performance and process a tracked mesh. Tr. 991-93.

6. MOVA alone could not animate the CG Beast's face. Tr. 760-61, 992. For example, MOVA does not capture the eyes or interior of the lips and mouth, which are necessary for a believable CG character. Tr. 763-64, 993-94, 996-97, 1193, 1485. Some portion of the nuance in Stevens's facial movements was lost both after retargeting to the differently shaped Beast facial rig and also when hair was added to the Beast's face. *Id.* at 995-98, 1192, 1250-51, 1296, 1493, 1496. Rearden offered no evidence at trial that MOVA software was used to retarget

¹ All references to MOVA are to the MOVA Contour software, the copyrighted work at issue.

1 captured data to the Beast facial rig. *See, e.g.*, Tr. 988, 995 (Rearden's expert admitting the
2 evidence he had seen indicated MOVA software was not used for retargeting).

3 7. Where it was used, MOVA was one step in a multi-step pipeline to animate the
4 Beast's face in certain shots. Steps that did not use MOVA included at least: creating the Beast's
5 facial rig, the on-set performance, re-targeting, animating, shot modeling, rotomotion, paint,
6 character effects, lighting, environmental effects, and compositing. TX210, 1057, 1061, 1187,
7 1189-1191, 1197-1199, 1202, 1204; Tr. 1233-34, 1257-1258, 1486-1502. Both sides' technical
8 experts agreed these non-MOVA steps were important to making the CG Beast realistic and
9 convincing to an audience. Tr. 994-1001.

10 8. The non-MOVA steps required the skills of hundreds of highly trained artists and
11 animators, dozens of other technologies and tools, and thousands of hours of work. Tr. 1234-35,
12 1485, 1000-01. DD3 recorded over 169,000 hours to non-MOVA billing codes for Beast shots;
13 1% of the total hours for Beast shots were recorded to MOVA billing codes. Tr. 1516-17.

14 9. The Beast appeared in 19% of the shots in the movie, and MOVA was not used for
15 all of those. A tracked mesh, which is the MOVA output used by visual effects artists in the
16 animation process, was delivered to DD3's animation team for 9% of shots in the movie.² Many
17 other elements besides the Beast's face appear in those shots (e.g., his body and voice, other
18 characters, setting, music, and costumes). TX1061; Tr. 1502-04, 1549-50.

19 10. DD3's task codes for shots where a tracked mesh was delivered to the pipeline
20 show 4.6-12% of tasks for those shots may be MOVA-related. The high-end of this range likely
21 overstates the percentage of such tasks. To calculate the percentage of MOVA-related tasks in the
22 movie, Disney's technical expert, Dr. Stephen Lane, multiplied 4.6-12% by the percentage of
23 Beast shots in the movie (19%), yielding a range of .9-2.4%. TX1057, 1061; Tr. 1517-18.

24 11. The quality of shots made without MOVA is indistinguishable from the quality of
25 shots made with MOVA. TX210, 1012, 1015, 1176, 1179, 1381-97, 1404-09, 1499; Tr. 1505-09,
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27
28 ² There is no evidence DD3 delivered a tracked mesh to the pipeline after issuance of the
preliminary injunction in the *SHST* litigation. TX1381-1397; Tr. 1518-19.

1255-58.³ A comparison of shot versions before and after a tracked mesh was delivered shows little quality difference and significant expressive detail added by steps that did not involve MOVA. TX1170-72, 1176-79, 1181-82, 1184-86; Tr. 1255-59, 1509-13.

12. MOVA can theoretically save facial animation time, but the data shows it did not do so for *BATB* for reasons including: the shapes of Stevens's and the Beast's faces are very different; the Beast's fur caused much of the MOVA-captured expression to be lost; and Stevens's performance in the MOVA rig did not perfectly re-create his on-set performance. Tr. 1513-16. On average, it took DD3 the same time to animate one second of footage of the Beast in shots that used MOVA as those that did not. *Id.* at 1514-15.

13. Because MOVA did not produce higher quality Beast shots or save time in creating those shots, and because MOVA accounted for less than 1% of the work on the movie, Dr. Lane concluded MOVA contributed little to no net value to the Beast's on-screen appearance. Tr. 1519-20. No Rearden expert disputed Dr. Lane's opinions about the quality of non-MOVA shots, the lack of time-savings, or the amount of MOVA versus non-MOVA work to create Beast shots.

B. The Marketing of *Beauty and the Beast*

14. Disney's marketing expert, Kristie Kershaw, analyzed Disney's \$129 million worldwide marketing campaign for *BATB*, which included creative advertising (trailers, commercials, and print advertising), digital and social campaigns, publicity appearances, brand partnerships, stunts and events, and media. Tr. 1382, 1387. The Court found Ms. Kershaw's testimony to be very credible, given her substantial experience in the film industry and the specificity and relevance of the data on which she based her opinion.

15. Disney's overall marketing strategy is set forth in its marketing plan, which does not refer to MOVA. TX1070; Tr. 1388-89, 1393-94. Disney's campaign focused on three primary elements: nostalgia and affection for the 1991 animated movie; the cast's star power

³ MOVA data was not used for the facial expressions built into the Beast facial rig and used for hand-animation. Tr. 1246-48, 1252. Mr. Menache opined MOVA was so used, but he did not confirm that by looking at the facial rig. *Id.* at 989-90. Darren Hendler, who supervised the rig team, credibly explained MOVA-captured expressions were not so used, *Id.* 1246-48, 1252, and Dr. Lane found no evidence that MOVA data was used for the Beast facial rig. *Id.* 1487-88.

1 (most notably that of Emma Watson); and fidelity to the 1991 movie. Tr. 1383.

2 16. The May 2016 *BATB* “teaser trailer” broke records for most views in 24 hours; the
3 Beast is not visible in that trailer. TX1487; Tr. 1397. The November 2016 “theatrical trailer”
4 likewise broke 24-hour viewing records. TX1043; Tr. 1398. This trailer includes some shots of
5 the Beast but does not refer to *MOVA*. Tr. 1399. There was no evidence of any contemporaneous
6 press statements about *MOVA* and the trailer. *Id.* Disney also marketed *BATB* through numerous
7 commercials, social media, and promotional appearances by the movie’s talent. TX1421, 1422,
8 1426, 1458, 1230; Tr. 1400-04. There is no evidence that any commercial or part of the social
9 media campaign promoted the use of *MOVA* to animate the Beast. Tr. 1400-04.

10 17. *MOVA* was mentioned at a press conference promoting the movie, in some
11 interviews with some cast members and the director, and in Disney’s press kit for the movie.
12 TX141, 148, 247, 363. *MOVA* was one of numerous topics discussed at these events and in these
13 documents. Tr. 1405-08. Rearden offered no evidence of resulting press mentions of *MOVA* or
14 that consumers were aware of, or motivated to see *BATB* by, these events/documents. Ms.
15 Kershaw found that *MOVA* was rarely mentioned in the press. *See id.* at 1409.

16 18. Ms. Kershaw performed a “social listening” study and reviewed audience-survey
17 data from when *BATB* was released. Tr. 1409-10, 1417-19. Neither of these indicated that
18 *MOVA* had a direct connection to consumers paying to see *BATB*. *Id.* at 1422, 1428.

19 a. Ms. Kershaw conducted her “social listening” study using Infegy, which is
20 third-party software used by major companies (e.g., Pepsi) and advertising agencies to analyze
21 marketing campaigns. Tr. 1410-11. Ms. Kershaw used Infegy to analyze 15.5 million mentions in
22 posts to popular social media sites (e.g., Twitter and Instagram) from November 13, 2016 (just
23 after the first theatrical trailer’s release) to April 28, 2017 (around six weeks after the premiere)
24 that included “Beauty and the Beast” or “#BeautyandtheBeast.” *Id.* at 1409-13. Ms. Kershaw ran
25 word searches against these posts. *Id.* at 1412-14. “*MOVA*” was mentioned 28 times (.0002%);
26 “*MOCAP*” was mentioned in 859 posts (006%). *Id.* at 1416-17. Ms. Kershaw could not search all
27 of the posts for “Beast” because that word is part of the movie’s title and thus was included in the
28 search that yielded the data set. *Id.* at 1414-15. Ms. Kershaw therefore hand-coded a

1 representative sample of 10,000 of the 15.5 million posts for references to “Beast.” *Id.* Ms.
 2 Kershaw found that the Beast was mentioned in 2.5% of the posts. *Id.* at 1423. Since there was
 3 more to the Beast than MOVA, and since “MOVA” was mentioned in .0002% of posts, Ms.
 4 Kershaw concluded the copying of MOVA software, to the extent it contributed anything, could
 5 not have contributed to anything more than 2.5% of audience interest in *BATB*. *Id.* at 1417, 1422-
 6 23.

7 b. Ms. Kershaw also reviewed the results of surveys of opening weekend in-
 8 theater audiences conducted by National Research Group (“NRG”), a well-known research firm,
 9 and found these results corroborated the results of her social listening study. TX1039; Tr. 1418-
 10 20, 1427. NRG asked survey members to identify, from a list of choices, why they decided to see
 11 *BATB*. Tr. 1420. The primary reasons identified were fandom for the 1991 animated movie, that
 12 Emma Watson played the character of Belle, and interest in the story. *Id.* at 1420-21, 1425. Other
 13 reasons included the Disney brand, the music, the overall cast, and “visual effects” generally. *Id.*
 14 at 1426. The survey did not list “MOVA” or facial motion capture, indicating Disney did not
 15 believe these were marketing priorities. *Id.* at 1421. Based on the NRG data, Ms. Kershaw
 16 concluded that audience interest in visual effects generally, not just animation of the Beast’s face,
 17 contributed 5-10% to audience interest in *BATB*. *Id.* at 1425-27.

18 **C. Disney’s Profits from *Beauty and the Beast***

19 19. Disney’s damages expert, Dr. Robert Wunderlich, found that Disney’s audited
 20 accounting statements for *BATB* accurately represented Disney’s revenue (\$1,013,813,849);
 21 deductible costs (\$799,179,465, including direct and indirect costs, back-end payments, and
 22 taxes); and total profits (\$214,634,384) through September 2023. Tr. 1561-65; *see also* TX388.

23 20. Rearden’s expert, Philip Fier, found virtually the same revenue (\$1,013,813,851)
 24 based on Disney’s accounting statements. Tr. 1169-70. Mr. Fier opined that Disney’s future
 25 profit (September 2023-2047) would be \$10,919,972. *See id.* at 1165-1167. Dr. Wunderlich
 26 adopted this estimate of future profit and added it to his calculation of profits through September
 27 2023, bringing total profits through 2047 to \$225,544,356. *Id.* at 1567, 1588-89. Mr. Fier offered
 28 a different total profits number because he did not include certain deductible expenses (namely,

1 production and distribution overhead costs Disney actually paid), calculated taxes in a different
2 way, and added interest to Disney's profits. Tr. 1157-1167. The advisory jury adopted Dr.
3 Wunderlich's total profits opinion, finding Disney's total profit was \$225,544,356. ECF No. 691.
4 This Court makes the same factual finding.

5 21. Dr. Wunderlich offered two methodologies for determining profits attributable to
6 DD3's infringement, as opposed to other factors. The first was the "investment-based approach,"
7 based on the economic concept that the relative cost of a component (here, MOVA) of a larger
8 product (here, *BATB*) reasonably approximates that component's relative contribution to the
9 profits generated by the larger product. Tr. 1584-86. Because DD3 did not charge for MOVA
10 services on *BATB*, Dr. Wunderlich used several approaches to estimate the cost to Disney of just
11 MOVA services. *Id.* at 1586. Dr. Wunderlich adopted the highest estimate from those different
12 approaches, \$835,460, which was higher than the costs DD3 actually incurred to provide the
13 services and more than double the highest amount Rearden has ever received for providing
14 MOVA services on any film. *Id.* at 1586, 1590-91. Dr. Wunderlich determined that the total cost
15 to Disney to produce and distribute *BATB* was \$546,776,486 and, thus, that the cost of MOVA
16 accounted for 0.153% of the overall cost of producing and distributing *BATB*. *See id.* At 1587;
17 TX388.

18 22. Dr. Wunderlich's alternative apportionment methodology, the "contribution-based
19 apportionment approach," apportioned profits by using inputs from Dr. Lane's and Ms. Kershaw's
20 testimony. Tr. 1579. Dr. Lane determined that 4.6-12% of DD3's tasks for shots of the Beast
21 were related to MOVA. *Id.* at 1580. Dr. Wunderlich adopted the high end of this range, 12%, for
22 his own apportionment analysis. *Id.* 1580-81. Ms. Kershaw opined that, at most, 2.5% of
23 filmgoers paid to see *BATB* because of the Beast character as a whole. *Id.* 1423-24. Multiplying
24 these two numbers, Dr. Wunderlich opined that no more than 0.30% of *BATB* profits were
25 attributable to DD3's copying of MOVA software. *Id.* at 1581. Dr. Wunderlich testified that
26 0.30% likely overstated MOVA's contribution, because Ms. Kershaw's underlying 2.5% estimate
27 was based on the Beast as a whole and because Dr. Wunderlich used the high end of Dr. Lane's
28 range (12%). *Id.* 1581-82.

23. Dr. Wunderlich applied both of his apportionment percentages to the amount of profit he found Disney would earn through 2047. He opined that the profits attributable to MOVA ranged from \$345,098 (investment-based apportionment of 0.153%) to \$676,663 (contribution-based apportionment of 0.30%). Tr. 1588-90. Dr. Wunderlich determined that this range was reasonable based on several benchmarks: (1) the highest amount Rearden ever charged for the use of MOVA (about \$386,000); (2) estimates of what DD3 could have charged for MOVA services on *BATB* (\$245,000-\$835,000); and (3) the amount paid to Mr. Stevens, who played the Beast (\$400,000 base compensation and about \$500,000 in bonuses). *Id.* at 1590-91. The advisory jury found that \$225,199,258 was the amount of *BATB* profits not attributable to DD3's infringement, and that \$345,098 (the low end of Dr. Wunderlich's range) was the amount of profits attributable to DD3's infringement. ECF No. 691.

II. CONCLUSIONS OF LAW

1. Section 504 of the Copyright Act provides the copyright owner may recover (1) its "actual damages" and (2) "any profits of the infringer that are attributable to the infringement and are not taken into account in computing the actual damages." 17 U.S.C. § 504(a)(1), (b). The first is a legal remedy that was submitted to the jury; the second (also called "indirect profits") is an equitable remedy for the Court, although the Court permitted the jury to render an advisory verdict on that issue here. ECF No. 672.

2. In determining indirect profits, the Court "make[s] its own independent assessment of the issues." *Softketeers, Inc. v. Regal W. Corp.*, No. 8:19-CV-00519-JWH (JDEx), 2022 WL 17968835, at *3 (C.D. Cal. Dec. 22, 2022) (citation omitted). The Court finds it appropriate, as part of its independent analysis, to consider the advisory jury's "contemporaneous and considered" assessment of the "relative credibility" of witnesses and the persuasiveness of evidence. *Clawson v. Mountain Coal Co.*, No. 01-CV-02199-MSK-MEH, 2007 WL 201253, at *11 (D. Colo. Jan. 24, 2007), *aff'd sub nom. Dillon v. Mountain Coal Co.*, 569 F.3d 1215 (10th Cir. 2009); *Kane v. PaCap Aviation Fin., LLC*, No. CV 19-00574-JAO-RT, 2023 WL 5499994, at *3 (D. Haw. Aug. 25, 2023) (advisory juries "allow[] the judge to get some appreciation for the common sense or standard of the community" (citation omitted)).

3. “Section 504(b) sets forth the evidentiary burdens for recovery of profits.” *Polar Bear Prods., Inc. v. Timex Corp.*, 384 F.3d 700, 711 (9th Cir. 2004). “[T]he copyright claimant must first show a causal nexus between the infringement and the gross revenue.” *Id.* If a causal nexus is shown, the infringer bears the burden of proving deductible expenses and “apportioning the profits that were not the result of infringement.” *Id.*

4. **Causal Nexus.** As a threshold matter, Rearden must establish “a legally significant relationship” between Disney’s gross revenues from *BATB* and the infringement. *Polar Bear Prods.*, 384 F.3d. at 711; *Mackie v. Rieser*, 296 F.3d 909, 914 (9th Cir. 2002) (“[C]opyright holder must establish the existence of a causal link [to infringement] before indirect profits damages can be recovered”). Rearden must present “concrete evidence” connecting consumers’ decisions to pay to see *BATB* with the infringement. *Mackie*, 296 F.3d at 916. The Court concludes Rearden proved a causal nexus.

5. **Gross Revenues.** Rearden met its burden of proving Disney’s gross revenues from *BATB* were \$1,013,813,849. TX388.

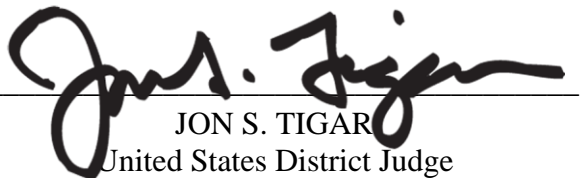
6. **Deductible Expenses & Profits.** Disney met its burden of proving its deductible expenses for *BATB* (including direct and indirect costs, back-end payments, and taxes) were \$799,179,465. *See* TX388; Tr. 1561-65. The Court concludes Disney’s net profits from *BATB* were \$214,634,384 through September 2023 and \$225,544,356 through 2047. The Court’s independent conclusion is consistent with the advisory jury’s verdict. ECF No. 691.

7. **Profits Attributable to Other Factors.** The Court concludes that Disney met its burden of proving the profits from *BATB* were substantially attributable to factors other than the infringement, including but not limited to: fanship for the 1991 animated movie; Emma Watson’s portrayal of Belle; the story; the Disney brand; the music; the overall cast; and the thousands of individuals and hundreds of vendors that worked on the movie for more than two years, including hundreds of thousands of hours of work on the Beast that did not involve MOVA, among others. Dr. Wunderlich’s apportionment approaches reasonably encapsulated these other factors and produced results consistent with other market benchmarks. Rearden presented no competing apportionment opinion. Rearden’s argument to the advisory jury that 8.9% of profits should be

1 apporportioned to the infringement was contrary to the record evidence.⁴ The advisory jury appears
2 to have accepted Dr. Wunderlich's lowest apportionment percentage by attributing \$345,098 of
3 *BATB* profits to the infringement. Upon independent review, the Court concludes the same. Thus,
4 the Court finds Rearden is entitled to disgorgement of profits in the amount of \$345,098.

5 **IT IS SO ORDERED.**

6 Dated: April 19, 2024

7 
8 JON S. TIGAR
United States District Judge

United States District Court
Northern District of California

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26 ⁴ Rearden's argument to the advisory jury was premised on the delivery of a tracked mesh for
27 8.9% of shots in *BATB*. But it was undisputed that those shots included many elements other than
28 the Beast's face; that MOVA alone cannot create a realistic CG character; and that the tracked
mesh was a preliminary step in an extensive pipeline to animate the Beast's face. This record does
not support attributing to MOVA 100% credit for the 8.9% of shots for which tracked mesh was
delivered, which is what Rearden's argument logically would require.